CHAPTER 118
DISCARDED APPLIANCE DEMANUFACTURING

567—118.1(455B,455D) Purpose. The purpose of this chapter is to implement Iowa Code chapter 455B, division IV, part 1, and section 455D.6(6) to ensure the proper removal and disposal of electrical parts containing polychlorinated biphenyls (PCBs), components containing mercury, and refrigerants (CFCs and HCFCs) from discarded appliances.

All appliances must be demanufactured before being recycled or disposed of. This chapter does not prevent the reuse or rebuilding of discarded appliances or components for their original purpose. This chapter does not apply to appliance service and repair shops unless they are in the business of demanufacturing discarded appliances. These rules do not apply to the removal of capacitors, refrigerants or components containing mercury during the maintenance or service of equipment containing such items.

567—118.2(455B,455D) Permit required.

118.2(1) No person that is now or plans to be involved in the demanufacturing of appliances is allowed to conduct any demanufacturing activities until an Appliance Demanufacturing Permit (ADP) has been obtained from the department of natural resources (DNR). The permit shall be issued for up to three years and is to be renewed every three years. The renewal application must be submitted to the solid waste section in the DNR central office in Des Moines a minimum of 30 days before permit expiration. This chapter does not apply to the removal of capacitors, refrigerants or components containing mercury during the maintenance or service of equipment containing such items.

118.2(2) Exceptions.

a. Any person engaged in the demanufacture of discarded appliances and registered with the department for removal and disposal of PCBs from appliances as of March 27, 2002, may continue such activity while applying for a permit provided:

(1) The department is notified within 30 days after March 27, 2002, of the person's intent to file a permit application; and

(2) A permit application is submitted within 90 days after March 27, 2002.

(3) If an appliance demanufacturing permit has not been obtained within one year of March 27, 2002, the appliance demanufacturer must cease appliance demanufacturing activities because of a lack of a permit.

b. Any person engaged in the demanufacture of appliances as of March 27, 2002, but not required to register because the pounds of capacitors removed is less than 200 pounds in a month or 500 pounds in a year, may continue such activity while applying for a permit provided:

(1) The department is notified within 30 days after March 27, 2002, of the person's intent to file a permit application; and

(2) A permit application is submitted within 90 days after March 27, 2002.

(3) If an appliance demanufacturing permit has not been obtained within one year of March 27, 2002, the appliance demanufacturer must cease appliance demanufacturing activities because of a lack of a permit.

118.2(3) Any person engaged in demanufacturing must be in compliance with all federal and state laws relating to the management and disposition of all hazardous wastes, hazardous materials and refrigerants.

567—118.3(455B,455D) Definitions.

"Appliances" means devices such as refrigerators, freezers, kitchen ranges, air-conditioning units, dehumidifiers, gas water heaters, furnaces, thermostats, clothes washers, clothes dryers, dishwashers, microwave ovens and commercial coolers with components containing mercury, refrigerants, or PCB-containing capacitors that are discarded from all sources.

"Ballast" means an electrical device containing capacitors for the purpose of triggering high-level electrical components. A ballast provides electrical balance within the high-level electrical component circuitry.

"Capacitor" means a device for accumulating and holding a charge of electricity that consists of conducting surfaces separated by a dielectric fluid.

"CFC" means chlorofluorocarbons, including any of several compounds used as refrigerants.

"CFR" means Code of Federal Regulations as amended through July 1, 2001.

"Demanufacturing" means the removal of components from discarded appliances including, but not limited to, PCB-containing capacitors, ballasts, mercury-containing components, fluorescent tubes, and refrigerants.

"Discarded" means no longer to be used for the original intended purpose.

"DOT-approved container" means those containers approved by the U.S. Department of Transportation, the agency responsible for shipping regulations for hazardous materials in the United States.

"Facility" means any landfill, transfer station, material recovery facility, salvage business, appliance service or repair shop, appliance demanufacturer, shredder operation or other party which may accept appliances for demanufacturing. A demanufacturing facility may occupy a portion of a material recovery facility, salvage business, landfill, transfer station or other site.

"Fixed facility" means a permitted appliance demanufacturer operating at a permanent location.

"Fluff" means the residual waste from the shredding operation after metals recovery.

"Hazardous condition" means any situation involving the actual, imminent or probable spillage, leakage, or release of a hazardous substance onto the land, into a water of the state or into the atmosphere which, because of the quantity, strength and toxicity of the hazardous substance, its mobility in the environment and its persistence, creates an immediate or potential danger to the public health or safety or to the environment.

"HCFC" means hydrochlorofluorocarbons, including any of several compounds used as refrigerants.

"Mercury-containing components" means devices containing mercury. Examples include, but are not limited to, thermostats, thermocouples, mercury switches and fluorescent tubes.

"Mobile operation" means a permitted appliance demanufacturer having equipment capable of operating in an area away from a fixed permitted location.

"PCB" or *"PCBs"* means polychlorinated biphenyl, which is a chemical substance that is limited to the biphenyl molecule that has been chlorinated to varying degrees, or any combination of such substances.

"Point of demanufacturing" means the actual location of demanufacturing for fixed facilities and mobile operations.

"Reclaim" means to reprocess refrigerant to an EPA ARI-700-88 standard.

"Recovery" means to remove all refrigerants to EPA standards.

567—118.4(455B,455D) Storage and handling of appliances prior to demanufacturing.

118.4(1) Any person collecting and storing discarded appliances must store them so as to prevent electrical capacitors, refrigerant lines and compressors, and components containing mercury from being damaged and allowing a release into the environment.

118.4(2) No method of handling discarded appliances may be used which in any way damages, cuts or breaks refrigerant lines or crushes compressors, capacitors, or mercury-containing components that may cause a release of refrigerant, PCBs or mercury into the environment.

118.4(3) No more than 1000 discarded appliances may be stored at a location prior to demanufacturing.

118.4(4) No discarded appliances may be stored for more than 270 days without demanufacturing.

567—118.5(455B,455D) Fixed facility and mobile operations. The following removal and disposal requirements must be met by both fixed facilities and mobile operations:

118.5(1) Demanufacturing of appliances must take place on an impervious floor (including but not limited to concrete, ceramic tile, or metal, but not wood). Any spills must be contained and picked up with proper equipment and procedures and properly disposed of.

118.5(2) The point of demanufacturing must be located 50 feet or more from a well and any water of the state. A permanent facility must meet local zoning requirements.

118.5(3) An applicant must establish a unique marking system, to be submitted with the permit application for DNR approval, signifying that all refrigerants, PCBs, and mercury-containing components have been removed. The unique marking system must be a minimum of nine inches by nine inches and must be applied to the appliances after demanufacturing.

567—118.6(455B,455D) Training. Beginning January 1, 2003, at least one owner or full-time employee of an appliance demanufacturing facility must have completed a DNR-approved training course covering, at a minimum, the following topics. A trained person must be on site at all times when discarded appliances are being demanufactured.

1. Regulations for the removal of refrigerant (CFCs, HCFCs, and ammonia) from appliances.
2. Regulations for the removal of PCB capacitors from appliances.
3. Regulations for the removal of mercury-containing components from appliances.
4. Regulations for the identification and removal of asbestos from ammonia-gas-operated refrigerators and air conditioners.
5. Safety issues.
6. Spill prevention and appliance cleanup procedures appropriate for appliance demanufacturing.
7. Proper storage, transportation, and disposal requirements for all recovered wastes from the appliance demanufacturing process.
8. The proper methods of loading and unloading discarded appliances.
9. General demanufacturing procedures.

567—118.7(455B,455D) Appliance demanufacturing permit application requirements.

118.7(1) The permit application for appliance demanufacturing must contain the following information to be submitted on Form 542-8005.

a. Facility name.

b. Office address.

c. Location of demanufacturing facility if different from office address.

d. Contact person or official responsible for the operation of the facility.

e. Type, source and expected number or weight of appliances to be handled per year.

f. Schematic site plans of a fixed facility including the schematic floor plans of any buildings showing where activities will take place and where waste is stored.

g. For mobile operations, provide schematic plans, or a description and photographs, of the mobile van or trailer.

h. A copy of the EPA Refrigerant Recovery or Recycling Device Acquisition Certification certifying that the equipment meets EPA requirements.

i. Operation plan: a detailed summary of the activities that will be performed on each type of appliance that will be considered for demanufacturing. This summary must include step-by-step activities of the demanufacturing process.

j. A contingency plan detailing specific procedures to be used in case of equipment breakdown or fire, including methods to be used to remove or dispose of accumulated waste.

k. A copy of the Authorization to Discharge **(**Stormwater) Permit number where applicable.

l. A copy of EPA notification of PCB activity. Facilities with a PCB storage area must register with Form 7710-53. This form may be obtained by contacting Fibers and Organics Branch, Office of Pollution Prevention and Toxics, United States Environmental Protection Agency, Ariel Rios Building (7404), 1200 Pennsylvania Avenue NW, Washington, DC 20460.

m. Submittal of documentation showing compliance with rule 118.6(455B,455D).

n. A copy of the unique marking system to be applied to each discarded appliance after demanufacturing.

o. Documentation that a permanent facility meets local zoning requirements.

118.7(2) Applications for permit renewal must address any changes to the information previously submitted pursuant to subrule 118.7(1). If there has been no change in an item, the applicant shall indicate such on the application form.

118.7(3) An application for permit amendment must be submitted and the amendment issued by the DNR before significant changes may be made by the permit holder to the process or facility.

567—118.8(455B,455D) Inspections.

118.8(1) Existing registered facilities and existing facilities that were previously exempt from registration will be inspected by DNR prior to issuance of the initial demanufacturing permit. The permit will not be issued until the initial inspection report shows that the facility is in compliance with the proposed permit and these rules.

118.8(2) New facilities (facilities not in operation on January 16, 2002) will be inspected by DNR prior to start-up. The initial inspection will be completed within 30 days of receipt of notice from the permit holder stating that the facility is ready for inspection. The facility may not start operation until the permit holder is notified by DNR that the initial inspection shows the facility is in compliance with the permit and these rules.

118.8(3) Appliance demanufacturing facilities will be inspected regularly by DNR.

567—118.9(455B,455D) Refrigerant removal requirements.

118.9(1) All owners of refrigerant recovery and recycling equipment must provide certification to EPA that they have acquired and are using EPA-approved equipment.

118.9(2) Refrigerants in appliances must be recovered to EPA standards using equipment meeting EPA requirements (40 CFR Part 82.162), or the person certified to remove refrigerants must verify that the refrigerant has been removed from the appliance before the appliance is removed for recycling or disposal.

118.9(3) The removal of refrigerants from refrigeration appliances must take place in an area where the temperature of the surrounding air and of the appliance being demanufactured is 45 degrees Fahrenheit or greater.

118.9(4) Facilities that are not EPA-certified refrigerant reclaimers must ship recovered refrigerant to an EPA-certified reclamation facility or properly dispose of the refrigerant at an EPA-permitted facility. Reclamation may only take place on site if the appliance demanufacturing facility is certified as a reclaimer by the EPA. Any refrigerants that cannot be reclaimed or recycled must be properly disposed of by incineration or other acceptable means.

118.9(5) Compressor oil.

a. Compressor oil from refrigeration unit compressors may be removed during the demanufacturing process, and any oil removed must be stored in accordance with 567—119.5(455D,455B).

b. Compressor oils are not hazardous and may be burned in used-oil-fired space heaters provided the heaters have a capacity of 0.5 BTUs (British thermal units) per hour or more.

c. Compressor oils may be sold to a marketer of used oil.

118.9(6) Ammonia-gas-operated refrigerators and air conditioners.

a. Ammonia gas must be vented into water.

b. Sodium chromate must be removed from refrigeration equipment containing sodium chromate.

c. Sodium chromate liquid is a hazardous waste and must be disposed of at an EPA-permitted facility.

d. Removal of sodium chromate liquid must take place on an impervious surface. In case of a spill, the spilled liquid and the material used as absorbent must be handled as a hazardous waste and disposed of as a hazardous waste.

e. Sodium chromate must be stored in a DOT-approved container that shows no sign of damage. The container must be labeled with a proper EPA-approved chromium label stating "chromium" or "hazardous waste" (40 CFR Part 262.32 and 49 CFR Part 172.304) in both English and the predominant language of any non-English reading workers.

f. Prior to shipment, sodium chromate must be packaged to prevent leakage, and all containers must be sealed.

g. Persons generating sodium chromate waste must maintain records to determine if they are a conditionally exempt small-quantity generator, small-quantity generator, or large-quantity generator of hazardous waste.

h. Asbestos insulation found on refrigerant lines must be removed. Proper protective equipment must be used and proper procedures must be followed when removing asbestos. Safety requirements shall comply with Occupational Safety and Health Administration (OSHA) regulations.

i. Asbestos must be moistened and double bagged, in accordance with 40 CFR Part 61.150, prior to disposal at the approved landfill for the person's area. A person who needs to dispose of asbestos must contact the landfill and make arrangements for the disposal and further packaging and handling procedures.

567—118.10(455B,455D) Mercury-containing component removal and disposal requirements.

118.10(1) All components containing mercury shall be removed from appliances. Precautions shall be taken to prevent breakage of the mercury-containing components and the release of mercury.

118.10(2) All mercury-containing component storage containers must be labeled with the proper EPA-approved mercury label stating "mercury" or "hazardous waste" (40 CFR 262.34(a)(2) and (3)) in both English and the predominant language of any non-English-reading workers. In addition to the label, the date when the first mercury-containing component was placed in the container must be affixed on the container.

118.10(3) All mercury containers must be sealed prior to shipment.

118.10(4) All components containing mercury must be disposed of at an EPA-approved mercury recycling/recovery facility.

118.10(5) Fluorescent tubes, lamps, bulbs, and similar items must be placed in a container and packaged to prevent breakage for shipment to an EPA-approved recycler or processed in a manner in compliance with state and federal regulations.

118.10(6) All mercury-containing components must be managed in accordance with all state and federal regulations.

567—118.11(455B,455D) Capacitor removal requirements.

118.11(1) All capacitors not marked as non-PCB must be removed from discarded appliances unless the manufacturer certifies in writing that no PCBs were used in the manufacture of the appliance or capacitor.

118.11(2) All capacitors are assumed to contain PCBs unless proven otherwise by an approved laboratory, unless the words "No PCBs" have been imprinted on the body of the capacitor by the manufacturer, or unless the manufacturer certifies in writing that no PCBs were used in the manufacture of the appliance or capacitor.

118.11(3) All PCB capacitors must be disposed of in accordance with subrule 118.11(5).

118.11(4) Capacitors that are proven not to contain PCBs may be disposed of or recycled as any other nonhazardous solid waste.

118.11(5) Containers for storage and disposal of PCB items. PCB capacitors must be stored and transported according to the Toxic Substances Control Act (TSCA) (40 CFR Part 761) and disposed of at a TSCA-permitted disposal facility. Facilities used for the storage of PCB items designated for disposal must meet the following storage requirements:

a. PCB items must be stored in a manner that provides adequate protection from the elements and adequate secondary containment. This storage must take place on an impervious material.

b. The point of demanufacturing must be located above the 100-year flood water elevation.

c. All capacitors containing or suspected of containing PCBs must be placed in a DOT-approved container that shows no signs of damage. The bottom of the container must be filled to a depth of two inches with absorbent material such as sand, oil-dry, or kitty litter.

d. All DOT-approved containers must be affixed with an EPA-approved 6″ x 6″ yellow label stating "PCBs" (40 CFR Part 761.45) in both English and the predominant language of any non-English-reading workers.

e. The date when the first capacitor was placed in the container must also be placed on the container.

f. Nonleaking small PCB capacitors may be stored for up to 30 days from the date of removal in an area that does not comply with the requirements in 118.11(5)*"a"* to *"e"* provided a notation is placed on the PCB item indicating the date the item was removed from the appliance.

g. All containers must be sealed prior to shipment.

h. Capacitors may be stored for no more than 270 days.

118.11(6) Transportation. The labeled and dated container must be transported by an EPA-approved PCB transporter using an EPA Uniform Hazardous Waste form. From the first date entered on the container, the demanufacturer has one year to have the contents buried at a TSCA landfill or incinerated at a TSCA disposal facility (40 CFR Part 761.65). This burial or incineration must be documented and this record kept by the demanufacturer for three years from the date the PCB waste was accepted by the initial transporter.

567—118.12(455B,455D) Spills.

118.12(1) Any spills from leaking or cracked capacitors must be handled by placing the capacitor and any contaminated rags, clothing, and soil into a container for shipment to an EPA-approved waste disposal facility. Spills of liquid PCBs which occur outside a DOT-approved container must be cleaned and the cleanup verified by sampling as described at 40 CFR Part 761.130. Detailed records of such cleanups and sampling must be maintained as described at 40 CFR Part 761.180.

118.12(2) Mercury spill kits (with a mercury absorbent in the kits) must be on hand and used in the event of a mercury spill. Any waste from the cleanup of a mercury spill must be disposed of as a hazardous waste.

118.12(3) In the event a spill results in a hazardous condition, the facility must notify the department of natural resources at (515)281-8694 and the local police department or the sheriff's office of the affected county of the occurrence of a hazardous condition as soon as possible, but no later than six hours after the onset or discovery of a spill.

567—118.13(455B,455D) Record keeping and reporting.

118.13(1) A permitted appliance demanufacturing facility shall keep the following records on a calendar-year basis:

a. The name of the facility or facilities to which demanufactured appliances were shipped, the date of each shipment, the weight or number of appliances in each shipment and the name and address of the transporter.

b. The name of the facility to which components containing mercury were shipped, including fluorescent tubes, the date of each shipment, the number of components and number of tubes shipped and the name and address of the transporter.

c. The name of the facility to which sodium chromate was shipped for disposal, the date of each shipment, the amount shipped and the name and address of the transporter.

d. The name of the facility to which refrigerants were shipped to be reclaimed, the date of each shipment, the amount shipped and the name and address of the transporter.

e. The name of the facility to which refrigerants were shipped to be disposed of, the date of each shipment, the amount shipped and the name and address of the transporter.

f. The name of the facility to which PCB capacitors and ballasts were shipped, the date of each shipment, the weight of capacitors shipped and the name and address of the transporter.

118.13(2) Annual reports with the information required in subrule 118.13(1) are:

a. To be sent to the solid waste section in the DNR central office in Des Moines, and a copy to the appropriate field office;

b. Due January 31 each year for the activities of the previous calendar year;

c. To be submitted on forms provided by the department, which may be submitted electronically when the electronic format is completed; and

d. To be retained by the permit holder for at least three years.

567—118.14(455B,455D) Shredding of appliances.

118.14(1) Fluff from the shredding of demanufactured appliances must be sampled quarterly, at a minimum, and analyzed according to Test Methods for Evaluation of Solid Waste, Physical-Chemical Methods SW 846, USEPA, Third Edition 1986, for the presence of PCBs, and according to the toxicity characteristic leaching procedure (TCLP) for lead and mercury. The waste shall be sampled once a day for seven consecutive working days to make a composite sample. If the total PCB amount is less than 50 ppm and if the TCLP results for mercury and lead are below 0.20 ppm and 5.0 ppm, respectively, the fluff may be landfilled in Iowa.

118.14(2) No person or facility engaged in demanufacturing in the state may shred, crush, or bale any appliances that have not been demanufactured. A person or facility located in Iowa that does not engage in demanufacturing but accepts appliances from demanufacturers for recycling or disposal may only shred, crush, or bale appliances that have been demanufactured in accordance with the federal regulations and the laws of the state from which the appliances are received.

These rules are intended to implement Iowa Code sections 455B.304 and 455D.6(6).

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*At its meeting held January 8, 2002, the Administrative Rules Review Committee voted to delay the effective date of Chapter 118 70 days.